March 21, 2006

Mr. Jason Hill Virginia Department of Environmental Quality 3019 Peters Creek Road Roanoke, VA 24019

Re: Draft Biological Implementation Plan for Stroubles Creek, VA.

Dear Mr. Hill:

I have a few comments about the TMDL Implementation Plan for Stroubles Creek.

Goal 1. Page 47. Can you eliminate the gravel road that floods out between Smithfield and Route 460?

Goal 2. What about making (or enforcing) laws that prohibit boxing up in concrete or unnaturally restricting the creek? What about opening up the creek where it is already boxed up (Marcia's Park by the police station)?

Goal 4. I'd like to see public input of E&S control on big projects at Virginia Tech and Town of Blacksburg. Neighbors know what happens when it rains hard and where the water will be concentrated. I've always thought E&S controls should anticipate heavier storm events.

Goal 6. I think the "locations and methods of hazardous material storage" should be documented and inspected not just at Virginia Tech but at industries, car repair, gas stations, etc....all along the creek and its branches.

I have learned a lot form the plan and appreciate the opportunity to participate in the process.

Andrew Schenker 1025 Jennelle Road Blacksburg, VA 24060

One Final comment- I believe the Virginia Tech farm should be applying on as little animal waste as its crops need and not as much waste as the land will hold.



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY WEST CENTRAL REGIONAL OFFICE

L. Preston Bryant, Jr. Secretary of Natural Resources WEST CENTRAL REGIONAL OFFICE 3019 Peters Creek Road, Roanoke, Virginia 24019 (540) 562-6700 Fax (540) 562-6725 www.deq.virginia.gov

David K. Paylor Director

Steven A. Dietrich Regional Director

May 23, 2006

Andrew Schenker 1025 Jennelle Road Blacksburg, VA 24060

Re: Draft Biological Implementation Plan for Stroubles Creek, VA

Dear Mr. Schenker:

Thank you for your letter regarding the biological TMDL implementation plan on Stroubles Creek. Virginia Department of Environmental Quality (VDEQ) and Virginia Department of Conservation and Recreation (VDCR) appreciate the time and effort you have taken to participate in the implementation planning process and we look forward to working with you as we work to restore the biological health in Stroubles Creek.

I have attempted to address all the concerns raised in your letter in a question and answer format. Please contact me at (540)-562-6724 if there are further questions.

Sincerely,

Jason R. Hill

Regional TMDL Coordinator

cc: Greg Anderson, Department of Environmental Quality

Mary Dail, Department of Environmental Quality

Theresa Carter, Department of Conservation and Recreation

Comment 1: Can you eliminate the gravel road that floods out between Smithfield and Route 460?

Comment 1 Response: This is a stated goal in the implementation plan. However, it is not a project with top priority due to the cost of completely relocating the road. The Stroubles Creek implementation plan will be used to guide future development and redevelopment plans. The plan for the gravel road is to move it away from the creek, so it will not flood and to restore a riparian buffer along Stroubles Creek. This goal will be addressed as resources allow.

Comment 2: What about making (or enforcing) laws that prohibit boxing up in concrete or unnaturally restricting the creek? What about opening up the creek where it is already boxed up (Marcia's Park by the police station)?

Comment 2 Response: VDEQ administers the Virginia Water Protection Permit (VWPP) program, which regulates any construction activities in streams. This program strongly discourages impacts to streams from road crossings and works with developers to avoid, minimize, and mitigate their impacts to receiving waters. The VWPP program has only been in existence for 10 years and before this program was created many activities occurred in streams that would not be permitted under current regulations. This program requires stream restoration, enhancement, and preservation to compensate for stream impacts. Candidate sites should be further discussed with the Stroubles Creek Implementation Plan committee.

Comment 3: I'd like to see public input of E&S control on big projects at Virginia Tech and Town of Blacksburg. Neighbors know what happens when it rains hard and where the water will be concentrated. I've always thought E&S controls should anticipate heavier storm events.

Comment 3 Response: The Virginia Freedom of Information Act makes all public records available to the public and could be used obtain erosion and sediment (E&S) control plans for any project (large or small). E&S plans used on a construction site are designed from VDCR's Virginia Erosion and Sediment Control Handbook or 'Green book'. This book outlines techniques, or best management practices (BMPs) for minimizing stormwater runoff from construction sites as required by law. The techniques identified in the Green Book can be sized specifically for the project, i.e. larger or more practices at larger sites and fewer or smaller practices at smaller sites. It is possible that high intensity, high magnitude storm events will overwhelm these BMPs, especially if they have not been properly designed, installed, and maintained. Localities are charged with review and enforcement of E&S plans and VDCR has oversight of the local E&S programs. The local VDCR office in Dublin has expressed an interest in helping the Stroubles Creek implementation plan committee understand the stormwater regulations and plans.

Comment 4: I think the "locations and methods of hazardous material storage" should be documented and inspected not just at Virginia Tech but at industries, car repair, gas stations, etc....all along the creek and its branches.

Comment 4 Response: The VDEQ does inspect industries that generate and store hazardous materials. Car repair shops that handle hazardous waste are subject to periodic inspection. Due to the high numbers of gas stations, car repair shops, dry cleaners, ink printers, VDEQ can not inspect every facility each year. However, any suspicious materials found at any operation are subject to inspection and citizens can report any suspected problems to the VDEQ.

Comment 5: I believe the Virginia Tech farm should be applying only as little animal waste as its crops need and not as much waste as the land will hold.

Comment 5 Response: The Virginia Tech farm has been cooperating with the Skyline Soil and Water Conservation district to install and maintain agricultural best management practices. As part of their conservation plan they have developed nutrient management plans specifically designed to their soils and field locations. This ensures proper nutrient levels for each crop and lessens the chance of 'over applying' nutrients to the land.



Memorandum

To: Dr. Gene Yagow, Upper Stroubles Creek TMDL IP Coordinator

From: Matt Stolte, P.E. Town Engineer ##

Subject: Review of the draft Upper Stroubles Creek Watershed Total Maximum

Daily Loading Implementation Plan (TMDL IP) - dated February 17,

2006.

Date: March 28, 2006

Attachments:

Cc: Mrs. Adele Schirmer, Director of Planning and Engineering

SUMMARY OF REVIEW

The Town of Blacksburg Planning and Engineering staff has reviewed the draft Upper Stroubles Creek Watershed TMDL Implementation Plan. The TMDL Steering Committee and Work Groups have been working diligently for the past year to develop this Implementation Plan. From the TOB staff perspective your leadership and direction in working with the stakeholders has made this task achievable within the original schedule.

Staff has the following comments and would like the Steering Committee to consider these additions in the final report. The comments are as follows:

- 1. Provide an additional 1% (2.5 tons/year) WLA allowance for future businesses/industries within the TOB. (See mark ups on page 24 attached).
- 2. The TOB is focusing its efforts within the IP to change current management practices and improve operations to remove excessive sediment from Town wide storm water facilities and streets. Table 6.3 in the report suggests that the TOB is currently working on cost share projects. These projects are not Capital Funded Projects and therefore may not happen within the designated time period for these implementation measures. It is the TOB staff understanding that these projects are being funded by VT. (See mark ups on page 37 attached)



- 3. The TOB is expending significant resources to update a hydraulic model that can be used to assess the severity and probability of sewer overflows throughout the Town. This effort should be reflected in Table 7.1 Implementation Timeline. (See mark ups on page 50, attached).
- 4. The TOB is limited on what measures can be taken to alter existing drainage systems that were installed in accordance with preexisting standards. It is unclear what the specific expectation is for the TOB on the item in the Implementation timeline that states "Correct channel encroachments to Webb Branch at Kabrich street." The TOB will make every effort to remove as much of the existing sewer line from the creek as is feasibly possible within the current Webb Street Sewer Project. However it is not reasonable to expect that the commercial properties along each side of the concrete drainage channel can be significantly altered to change the existing "encroachments" along this section of the creek. Please clarify the task that is expected from the TOB for this implementation measure (See mark up on page 50).
- 5. The three stakeholders within the watershed that are under an MS4 permit are TOB, VT, and VDOT. The TOB and VT have been active participants over the last year in developing the IP and the report highlights the efforts that these two stakeholders are making to reduce sediments loads through the MS4 program. There is not much information on how VDOT intends to assist the stakeholders in improving water quality. More information is needed on how VDOT intends to decrease sediment loads through their MS4 program and how it will be measured by specific milestones in the Implementation timeline. (See mark ups on page 51, attached).
- 6. The TOB staff understands that the success of this TMDL IP is dependent upon continuing leadership and encourages the steering committee to address funding sources aggressively in an attempt to make the TMDL IP leadership role a paid position for the next 5 years.

Members of the Blacksburg Town Council were given an overview of the TMDL IP by Town Staff at the Council Work Session meeting held on March 21, 2006. A copy of the presentation is attached. Questions and comments were solicited from the Council during the presentation and no additional comments were received.

TMDL	WLA		LA	MOS
(t/yr)	(t/yr)		(t/yr)	(t/yr)
2,145.6	233.2		1,697.9	214.6
	VAR050441 - Litton Systems Inc Poly Scientific	Div : 2.7		
	VAR050508 - VT - Central Heating Plt:	0.46		
	VAR10042 - VT - Dairy Science Center:	2.37		
	VAR10267 - VT - Campus:	15.43		
	VAR10275 - Hawthorne Ridge Town Houses:	0.77		
	VAR10282 - Carriage Court II:	0.54		
	VPG120011 - VT - Dairy Science Center:	0 _		
	MS4s (VAR040019 VAR040049 VAR040016):	210.88		

Table 4.5. Upper Stroubles Creek TMDL* Sediment Load

The margin of safety (MOS) was explicitly defined as 10% of the calculated TMDL to reflect the relative uncertainty associated with benthic impairment modeling. The MS4 load in Table 4.4 was calculated for existing conditions and estimates loads prior to implementation of MS4 regulations. The MS4 allocation in Table 4.5 was calculated assuming 50% reductions of the modeled sediment load from urban land uses with implementation of Phase II MS4 measures being planned by the Town and University. The waste load allocation (WLA) is equal to the MS4 load plus loads from specific industrial stormwater and construction permits. The load allocation (LA) – the allowable sediment load from nonpoint sources – was calculated as the target TMDL load minus the MOS minus the WLA. Since the MOS is excluded from allocation, the target load for allocation purposes in Upper Stroubles Creek becomes the TMDL minus the MOS (2,145.6 – 214.6 = 1,931.1 t/yr).

Because of expected future growth in the watershed, TMDL modeling for the allocation runs was performed using the future land use scenario for Stroubles Creek. The projected future sediment loads in Stroubles Creek watershed by land use category and subwatershed are shown in Table 4.6.

Provide 1% WLA, Allowance FOR FUNDE TOB PERMITS.

^{*} Total Maximum Daily Load

The existing ponds trap a large amount of the coarse and medium-sized sediment particles, though fine particulates are still transported downstream during large flows, and detention ponds do not fully counteract the effect of increasing imperviousness. Upstream sediment sources contribute to impaired conditions in Webb Branch and Central Branch tributaries upstream of the Duck Pond, as shown by volunteer monitoring. However, the larger volumes and rates of runoff generated on upstream impervious areas during large runoff events will still increase downstream sediment transport and contribute to streambank erosion. These larger runoff volumes will be addressed through a variety of demonstration infiltration practices in the Town of Blacksburg and on the Virginia Tech campus. The stormwater management BMPs identified during implementation planning to address the water quality problems in Stroubles Creek are outlined in Table 6.3.

impervior transport addresse Blacksbu identified Stroubles	ng. However, the larger voluing areas during large runoff of and contribute to streambared through a variety of demonstration on the Virginia Technology and on the Virginia Technology and some control of the control	events alk eros astratic campu aing to 6.3.	will still i ion. The on infiltra s. The s address	increase se large tion prac tormwa the wat	e downstre r runoff vo ctices in the ter manag rer quality	eam sedin blumes wi ne Town o ement Bl problems	nont	tos poted this coted who has
		Redu	ctions			j		1,16
Problem Addressed	Stormwater BMPs	Total Extent	Units	Cost / Unit	Total Cost	Potential Sou Cost-Share	Funding rces	be who have a second of the se
1	Urban riparian forest buffers	7.20	acres	\$547	\$3,938		В	/X// ' { }
1	Wetland development		acres		- TBD -	12/	С	
4	Infiltration trench retrofits	55,386	cu.ft.	\$17.50	\$969,255	AT, TOB.	D	1 (W /
4	Infiltration level spreaders	0.00	acres		\$0	TQB		1/4() /
4	Additional infiltration BMPs	9.83	acres		\$142,784			
4	Bioretention area	0.89	acres		\$164,790	(VT, TOB)	D	
4	Additional bioretention BMPs	11.60	acres		\$223,242	(VI, TOB)	() D	
4	Sediment pond stabilization		acres		- TBD -	VI V		
	Eliminate improper downtown business							
7	wastewater disposal					тов 🖊		
8	Street sweeping (additional)	58.47	curb miles	\$218	\$12,746	TOB 🗸		
8	Hydrodynamic solids separator	2	systems	\$50,000	\$100,000	VT	D	
9	Increase E&S program efficiency				\$50,000	3, <i>TOB</i>		
10	Reduce improper disposal of grass clippings and trash					ТОВ		
TAA (Techn	ical Assistance / Administration)	27%	of all excep	t VT and	\$99,890			
Total Cost			TOB expen	ditures			\$1,766,647	

Potential Cost-Share Sources

Potential Grant Sources A USFWS Private Stewardship Grant B Canaan Valley Institute

- 1. Virginia Ag BMP Cost-Share Program 2. USDA CREP Program
- 3. EPA §319 Program
- 4. DEQ Low Interest Program
- C. Five-Star Restoration Program
- D. Virginia Water Quality Improvement Fund

Costs were not calculated for problems 7 and 10 above, as these practices address problems raised in the TMDL study which have only a minor impact on sediment, but will reduce nutrients and organics which were also cited as potential pollutants. They are mentioned for completeness in following through with the identified problems and are being addressed through the MS4 programs of both VT and TOB. There are several areas with potential for development of constructed wetlands, but these will be subject to site specific analysis during the implementation phase. The stabilization costs for the VT alumni center sediment pond are unknown at this time, but will be covered by existing VT contracts.

7.3. Implementation Schedule

A list of BMPs for targeted locations and other general actions to be implemented during the first 5 years of the plan around the Stroubles Creek watershed is shown in Table 7.1.

Table 7.1. Implementation Timeline

	2006		
Goal	Measurable Milestone	Party Responsible*	
1	Contact agricultural land owners to present and discuss BMP and funding options.	wsc	
1	Apply for grants where cost-sharing is not available or supplemental incentives are needed.	WSC, SCSC	
1	Plan and install livestock management BMPs on VT farm.	WSC, DCR, SWCD, NRCS	
1	Plan and install livestock exclusion and limited access crossing BMPs on Heth farm	WSC. BSE. SWCD. NRCS. VTF	
1	Plan and install forested buffers on Heth farm	WSC. VDGIF. SWCD, NRCS. VTF	
2	Assess-capacity of culverts at Rt. 460.	VT, VDOT	
2	Correct channel encroachments to Webb Branch at Kabrich Street.	TOB)	
	Employ a part-time watershed coordinator.	NRWR, SCSC	
3	Develop a community educational workshop on water quality awareness and homeowner LID	WSC, TOB	
3	Develop an official Adopt-A-Stream program for service organizations on campus.	WSC, VT	
4	Upgrade sanitary sewer line from Prices Fork Rd. to West Campus Drive.	VT, TOB	
4	Plan. install. and monitor demonstration water quality. LID. and other innovative storm water management practices.	VT. ТОВ	
4	Conduct field survey of potential areas for constructed wetlands	WSC, BSE. SWCD. NRCS. VDCR	
4	Arrange for external review and evaluation of the E&S Program as implemented in the watershed.	VT, TOB	
5	Provide feedback on the Virginia Tech Master Plan to ensure consistency with Stroubles Creek IP.	WSC	
5	Calibrate the water, storm, and sanitary sewer models for campus for analysis of water	VT	
5	Link GIS mapping capabilities with discharge model to track illicit discharges and scheduled maintenance for storm water facilities.	vī	
- 6	Construct a combined salt storage facility with TOB to prevent runoff.	VT, TOB	
3	Employ a part-time watershed coordinator.	NRWR, SCSC	
3	Plan and install urban forested buffers.	WSC, VDOF, SWCD, NRCS	
3	Present the community educational workshop to homeowners and/or neighborhood associations at least annually.		
	2007		
Soal	Measurable Milestone	Party Responsible*	
3	Employ a part-time watershed coordinator.	NRWR, SCSC	
	Plan and install urban forested buffers.	WSC, VDOF, SWCD, NRCS	
3	Present a community educational workshop to homeowners and/or neighborhood associations.	wsc, scsc z	
3 2	Plan, implement, and monitor stream restoration measures on Heth farm.	WSC. BSE. SWCD. NRCS. VTF	
	2008		
·	Measurable Milestone	Party Responsible*	
oal	Employ a part-time watershed coordinator.	NRWR, SCSC	
3		WSC, VDOF, SWCD, NRCS	
3	Plan and install urban forested buffers. Present a community educational workshop to homeowners and/or neighborhood associations.	WSC, SCSC	
3		11100, 0000	
	2009	Destriction and the	
Goal	Measurable Milestone	Party Responsible*	
3	Employ a part-time watershed coordinator.	NRWR, SCSC	
3	Plan and install urban forested buffers.	WSC, VDOF, SWCD, NRCS	
3	Present a community educational workshop to homeowners and/or neighborhood associations.	wsc, scsc	
	2010		
Goal	Measurable Milestone	Party Responsible*	
3	Employ a part-time watershed coordinator.	NRWR, SCSC	
3	Plan and install urban forested buffers.	WSC, VDOF, SWCD, NRCS	
3	Present a community educational workshop to homeowners and/or neighborhood associations.	WSC, SCSC	

*WSC = Watershed Coordinator, SCSC = Stroubles Creek Steering Committee; DCR = Department of Conservation and Recreation; SWCD = Skyline Soil and Water Conservation District; BSE = VT Biological Systems Engineering Department; NRCS = USDA Natural Resource Conservation Service; TOB = Town of Blacksburg; VDGIF = Virginia Department of Game and Inland Fisheries; VDOF = Virginia Department of Forestry; VDOT = Virginia Department of Transportation; VT = Virginia Tech; and VTF =

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Table 7.1 (cont.)

	Annually		
Goal	Measurable Milestone	Party Responsible*	
4	Conduct annual inspections of storm water outfalls and maintain facilities infrastructure database.	VT, TOB	
5	Schedule routine inspection, maintenance, and repair of all storm water management facilities on campus.	VT	
5	inventory area of street sweeping on an annual basis. Clean roadways/parking areas after major university events.	V T. ТОВ	
5	Inventory linear feet of streams cleaned up on an annual basis.	wsc	
6	Educate staff on vehicle and equipment washing.	VT	
6	Continue to monitor and maintain storm sewer intakes on an annual basis.	VT, TOB	
6	Document locations and methods of hazardous material storage and inspect annually.	VT	
6	Continue to update and evaluate existing campus Nutrient Management Plan.	VT	
6	Publicize pollution prevention phone numbers and web site to report problems and/or illicit	VT	
	Ongoing		
Goal	Measurable Milestone	Party Responsible	
3	Plan and install demonstration homeowner Low Impact Development (LID) practices.	WSC, TOB	
3	Apply for grants to fund homeowner and demonstration BMPs.	wsc, scsc	
3	Actively promote enrollment of sponsors for the Adopt-A-Stream program in the watershed.	WSC, TOB	
3	Reinforce proper recycling and trash disposal plan to university students and staff.	VT	
3	Educate university students and staff on VT Pollution Prevention plan.	VT_	
4	Invite review and feedback on Capital Projects to ensure effective storm water and erosion and sediment controls.	VT	
4	Provide clear guidance to Project Managers on Erosion and Sediment Control requirements.	VT, TOB	
4	Retrofit existing facilities with LID practices, where practical.	VT, TOB	
4	Identify service vehicle areas on campus for installation of grass pavers.	VT	
5	Maintain and update existing facility inventory database and GIS mapping on facilities, storm water conveyance and control structures, and receiving surface water bodies.	77	
6	Seek alternative methods to de-icing roadways and parking lots while minimizing salt usage.	VT, VDOT)	

*WSC = Watershed Coordinator, SCSC = Stroubles Creek Steering Committee; DCR = Department of Conservation and Recreation; SWCD = Skyline Soil and Water Conservation District; BSE = VT Biological Systems Engineering Department; NRCS = USDA Natural Resource Conservation Service; TOB = Town of Blacksburg; VDGIF = Virginia Department of Game and Inland-Fisheries; VDOF = Virginia Department of Forestry; VDOT = Virginia Department of Transportation; VT = Virginia Tech; and VTF =

7.4. Reasonable Assurance

Public participation is an integral part of the IP development and is critical in gaining support for both the voluntary and MS4 compliant implementation activities that are being planned. During the public participation process, the major stakeholders in the watershed, the MS4 Coordinators for both the Town of Blacksburg and Virginia Tech, and a wide variety of local conservation agency personnel were involved in the Focus Group and Steering Committee meetings. This broad participation by the major watershed stakeholders provides a reasonable assurance that the public was contributing to the TMDL process and had input into the selection of management and implementation practices recommended by this IP.

The Steering Committee formed during this implementation planning period will continue meeting through the implementation phase, ensuring continuity of leadership and vision. The Project Team, the Town of Blacksburg, and the Virginia Tech Site & Infrastructure entities are all independently, and cooperatively, pursuing WQIF and other grant opportunities for the purpose of funding specific components of the Stroubles Creek IP, ensuring their continuing interest, participation, and support.

The attention focused on Stroubles Creek during the implementation planning phase has raised the visibility of the Steering Committee in the community as a recognizable watershed partner, so that other planning entities, such as the Town of Blacksburg's Planning and Engineering Department, the Friends of the Huckleberry Trail, and the VT

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Upper Stroubles Creek Watershed Total Maximum Daily Loading Implementation Plan

March 21, 2006 Council Work Session

Matt Stolte

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- · What it is
- · Public Process
- · Plan to Improve Water Quality
- TOB Commitments
- · Staff comments on the Draft plan
- · Close of Public Comment Period March, 28

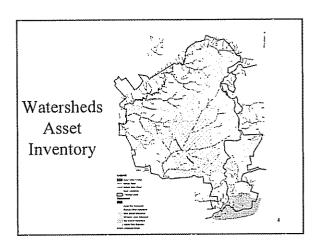
Overview of TMDL IP

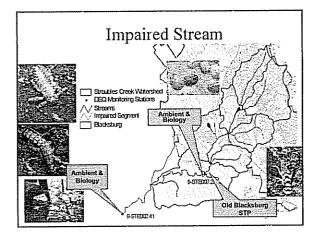
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Framework

- Iotal Maximum Daily Loading = Stream Impaired
- · 1972 Clean Water Act
 - Restore & Maintain Nation's Waters
 - List Impaired Waters
 - Identify IMDL that results in "Impairment"
- 1997 Va Water Quality Monitoring, Information and Restoration Act
 - Develop Implementation Plan (IP)
- · 1999 EPA Region III & Va Consent Decree
 - Develop TMDL Studies by 2010

3





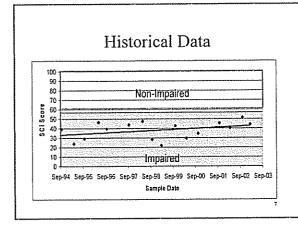
Benthic Macroinvertibrates?

- Stream-inhabiting organisms
 - Benthic: Bottom dwelling
 - Macro: Large enough to see with naked eye
 - Invertebrates: Without backbones









Sediment = Surrogate Stressor

- Impacts from the three possible stressors
 - nutrients,
 - organic matter
 - sediment
- Best management practices (BMPs)
 - control sediment may result in decreases in the other possible stressors as well
 - stressors are interrelated

Contributing Factors – 2004 TMDL

- · Erosion of stream banks
- · Livestock access to streams
- · Agricultural runoff
- · Urban storm water runoff
- · Sewer overflows
- · Erosion & sediment controls

Public IP Process

- Grant from VDEQ for IMDL IP Fall 2004
- Stakeholders VI, TOB, Mont County, VDOT
- · Steering Committee
- · Focus Groups
 - Agricultural/Rural
 - Residential/Urban
 - Public Works
- · Project Teams

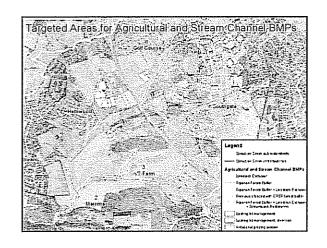
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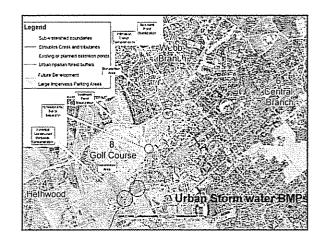
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	Meeting Date	Meeting Time	(Meeting Type	Location	
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	March 15 2005	10 (C roor:	(Proest Planning	WAL Conference Room	
	Warth 31, 7005	5:00-10:00 em	Project Planning	1510 Lton-Resids Hall	
	Azri 4 2005	5 00-7 00 pm	Project Plansons	Donaldson Brown CEC Auditorum	
	April 70 1005	3 35-4 30 tm	Proest Team	Teleconference	
	Mai 17 7005	11 (G am	Easthurg fown Councy	Blamadurg Police Dept. Conference Room	
	V21 75 XX5	200400 pm	Froed learn	WA! Conference Room	
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Regular	Are 23 2025	306400 tm	Project Years	WAL Conference Room	
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Meetings	Jone 79 7005	100 900 pm	From Group	Bantidgittan	
	July 1 2005	1 3G-7 30 pm	Project Team	Teleconference	
	Arr 14 7005	900-1030 1m	Steering Committee	18101 mon Report Hall	
	Jer 21 2005	£00-10 00 ап.	Americal Text	Virgina Tech Farm	
	July 27, 2005	7 00 9 00 pm	Focus Goup	12101 ton fierres-hal	
	August 1005	1:30:3:00 pm	Vegna Tech Foundation	IVI CRC	
	August 1 7005	7.50-3.20 nm	Front Team	le econterence	
	August 10, 2005	\$400 room	Utan Teyr	Around Blacksburg and VT cambus	
	August 13 (1005)	\$-00-10 00 am	Steering Committee	18101 Por-Reaves Hall	
	September 71, 7005	7 00 9 00 rm	Focus Group	Baosaug Lenny	
	Desiber 19-2005	1207-1100 am	Project Team	Telegonite i ence	
	November 21, 2005	10:00 toes	Stermy Committee	1810 Leon-Reaves Hall	
	Fectuary 7, 2006	7 00 9 00 pm	Focus Ghups and	Backsturg Library	
	February 8, 7005	1 00 3 00 cm	Steem o Committee	Sadrediena 11	

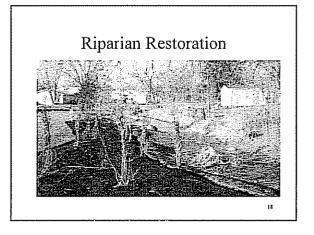
Implementation Measures

- Agricultural BMPs
- · Stream Channel BMPs
- Urban Storm water Management BMPs
- Sanitary Sewer System Improvements
- Urban/Residential Education Program





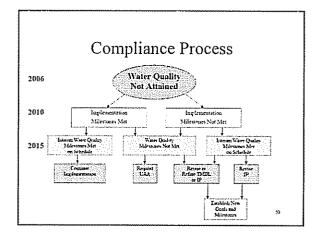
	1	P Reduction	Implementation	Cost/Load	
Implementation BMPs	H	Ρ.	Sed	Costs	Reduction
	(lbs/yr)	(lbs/yr)	(tons/yr)	Total	(\$Aon Sed
Riparian forest bufler - agr	4,323.9	2.894.6	766.7	\$19,449	\$25.3
Livestock exclusion + limited access	1.042.92	199.13	56.54	\$42,945	\$759.5
Loafing lot management + diversion	37.02	28.48	0.00	- TBD -	
Stream channel restoration	280.1	505.7	213.8	\$1,210,540	\$5,661.0
Riparian forest buffer - urban	581.7	186.2	164	\$5,002	\$304.8
Infiltration practices (additional)	66.45	11.42	2.25	\$181,336	\$60,517.5
Bioretention areas (additional)	57.15	13.21	1.85	\$239.024	\$127,359.0
Street sweeping (additional)	778.95	58.09	16.15	\$12,745	\$789.4
Hydrodynamic secarator	192.76	1054	1.54	\$100,000	\$54,744.6
Increase E&S program efficiency	382.92	715.92	90.00	\$50,000	\$555.5



TOB Commitments

- · Webb Street Sewer upgrade project
- · Town wide sewer analysis model
- MS4 Permit Program
 - Illicit Discharge Elimination
 - Evaluate Low Impact Development BMP
 - Maintain storm water infrastructure (street sweeping)
 - Promote riparian restoration easement options
 - Storm water GIS database and model
 - Staff Watershed Management workgroup
 - Alternative property management practices
- · Dollar amounts allocated in current CIP
- · Active participation with TMDL IP Group

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Staff Comment Memo

- Reserve a 2%WLA for future point loads.
- Additional information on VDOT MS4 strategy for sediment reductions.
- Implementation schedule to reflect MS4 time table.
- · Clarify channel encroachments on Kabrich.
- · Specifics on TMDL IP Group leadership.

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Questions or Comments

Public Comment Closes 3/28/06

TMDL Web Documents http://tmdl net/forum/forum asp?FORUM_ID=11



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY WEST CENTRAL REGIONAL OFFICE

L. Preston Bryant, Jr. Secretary of Natural Resources WEST CENTRAL REGIONAL OFFICE 3019 Peters Creek Road, Roanoke, Virginia 24019 (540) 562-6700 Fax (540) 562-6725 www.deq.virginia.gov

David K. Paylor Director

Steven A. Dietrich Regional Director

May 23, 2006

Mattew H. Stolte Town of Blacksburg 300 South Main Street P.O. Box 90003 Blacksburg, VA 24062-9003

Re: Draft Biological Implementation Plan for Stroubles Creek, VA

Dear Mr. Stolte:

Thank you for your letter regarding the biological TMDL implementation plan on Stroubles Creek. Virginia Department of Environmental Quality (VDEQ) and Virginia Department of Conservation and Recreation (VDCR) appreciate the time and effort you (and the entire staff of the Planning and Engineering Department) have taken to participate in the implementation planning process. VDEQ looks forward to working with the Town of Blacksburg as we work to restore the biological health in Stroubles Creek.

I have attempted to address all the concerns raised in your letter in a question and answer format. Please contact me at (540)-562-6724 if there are further questions.

Sincerely,

Jason R. Hill

Regional TMDL Coordinator

cc: Greg Anderson, Department of Environmental Quality

Mary Dail, Department of Environmental Quality

Theresa Carter, Department of Conservation and Recreation

Comment 1: Provide an additional 1% (2.5 tons/years) WLA allowance for future businesses/industries within the TOB (See mark ups on page 24 attached).

Comment 1 Response: There is a process that VDEQ will follow to amend the WLA as it is necessary and to allow for future growth. The expansion should not be requested until the amount of needed allocation is known (please see attached *Guidance Memo 05-2011*).

Comment 2: The TOB is focusing its efforts within the IP to change current management practices and improve operations to remove excessive sediment from Town wide storm water facilities and streets. Table 6.3 in the report suggests that the TOB is currently working on cost share projects. These projects are not Capital Funded Projects and therefore may not happen within the designated time period for these implementation measures. It is the TOB staff understanding that these projects are being funded by VT (See mark ups on page 37 attached).

Comment 2 Response: These comments will be used to modify the final report and correct Table 6.3.

Comment 3: The TOB is expending significant resources to update a hydraulic model that can be used to assess the severity and probability of sewer overflows throughout the Town. This effort should be reflected in Table 7.1 Implementation Timeline (See markups on page 50, attached).

Comment 3 Response: These comments will be incorporated into Table 7.1

Comment 4: The TOB is limited on what measures can be taken to alter existing drainage systems that were installed in accordance with preexisting standard. It is unclear what the specific expectation is for the TOB on the item in the Implementation timeline that states "Correct channel encroachments to Webb Branch at Kabrich street." The TOB will make every effort to remove as much of the existing sewer line from the creek as is feasibly possible within the current Webb Street Sewer Project. However it is not reasonable to expect that the commercial properties along each side of the concrete drainage channel can be significantly altered to change the exiting "encroachments" along this section of the creek. Please clarify the task that is expected from the TOB for this implementation measure (See mark up on page 50).

Comment 4 Response: VDEQ recognizes situations where best management practices will be difficult to implement due to preexisting conditions. The final report will clarify this goal in the text.

Comment 5: The three stakeholders within the watershed that are under an MS4 permit are TOB, VT, and VDOT. The TOB and VT have been active participants over the last year in developing the IP and the report highlights the efforts that these two stakeholders are making to reduce sediment loads through the MS4 program. There is not much information on how VDOT intends to assist the stakeholders in improving water quality. More information is needed on how VDOT intends to decrease sediment loads through their MS4 program and how it will be measured by specific milestones in the Implementation timeline. (see mark ups on page 51, attached).

Comment 5 Response: The Stroubles Creek implementation plan committee will make an increased effort to get a VDOT representative to participate in the implementation plan. We agree they could be a valuable asset to the implementation process.

Comment 6: The TOB staff understands that the success of this TMDL IP is dependent upon continuing leadership and encourages the steering committee to address funding sources aggressively in an attempt to make the TMDL IP leadership role a paid position for the next 5 years.

Comment 6 Response: VDEQ agrees that this is a top priority and will make every effort to find funding for this position. Until this position is filled, the steering committee will create documentation and reports that reflect the progress that is currently underway in the watershed.

COMMONWEALTH OF VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY **DIVISION OF WATER QUALITY PROGRAMS** ELLEN GILINSKY, Ph.D., DIRECTOR

P.O.BOX 10009 Richmond, VA 23240-0009

Subject: Guidance Memo 05-2011

TMDL Modifications in Response to New or Expanding Discharges

To: Regional Directors, Deputy Regional Directors Ellen Dunsky

Ellen Gilinsky, Ph.D., Director From:

July 26, 2005 Date:

Copies: TMDL staff, Water Permit staff, Alan Pollock, Cindy Berndt, Jack Frye (VADCR),

Joey O'Quinn (VA DMME)

Summary:

Permits issued for facilities with wasteload allocations developed as part of a Total Maximum Daily Load (TMDL) must be consistent with these wasteload allocations (WLA), as per EPA regulations. In cases where a proposed permit modification is affected by a TMDL WLA, permit and TMDL staff must coordinate to ensure that new or expanding discharges meet this requirement. This guidance describes the available options and the process that should be followed under those circumstances, including public participation, EPA approval, State Water Control Board actions, and coordination between permit and TMDL staff.

Electronic Copy:

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET, and for the general public on DEQ's website at: http://www.deq.virginia.gov.

Contact information:

For additional information regarding TMDLs, please contact Mr. Charles Martin, Watershed Program Manager, at (804) 698-4462 or at chmartin@deg.virginia.gov. For additional information regarding water permits, please contact Mr. Allan Brockenbrough at (804) 698-4147or at abrockenbrough@deg.virginia.gov.

Disclaimer:

This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

TMDL Modifications in Response to New or Expanding Discharges

I. Background

Since 1999, Virginia has been developing Total Maximum Daily Loads (TMDLs) for a number of pollutants. EPA regulations (40 CFR §130.2(h), 40 CFR §130.2(i)) require that an approvable TMDL include individual wasteload allocations (WLAs) for each point source, or in some cases, categories of point sources. EPA also requires the wasteload allocation to be expressed in terms of loading (e.g., mass/year for sediment, cfu/year for bacteria). Therefore, any increase in flow due to expansion at a permitted facility will result in a discharged load exceeding the TMDL's wasteload allocation.

New or revised VPDES permits must be consistent with TMDL WLAs, as per federal regulations (40 CFR §122.44 (d)(1)(vii)(B)), and EPA approval is needed for any changes to the WLA and TMDL, regardless of the rationale for such a change. The Virginia State Water Control Board (SWCB) approves all TMDLs and adopts wasteload allocations as part of the Water Quality Management Planning Regulation (9VAC 25-720), except in those cases when permit limitations are equivalent to numeric criteria contained in the Virginia Water Quality Standards, such as for bacteria.

In cases where a proposed permit modification is affected by a TMDL WLA, permit and TMDL staff must coordinate to ensure that new or expanding discharges are consistent with the TMDL WLA. This guidance describes the available options and the process that should be followed under those circumstances, including public participation, EPA approval, State Water Control Board actions, and coordination between permit and TMDL staff.

II. Procedure

There are three options available to process a permit modification that is affected by a TMDL WLA. In all cases, the permit staff and the TMDL staff must coordinate activities to ensure that no permit is issued in violation of the TMDL.

- 1. Process a permit modification that maintains the existing TMDL WLA loading. In this case, no TMDL modification is required and the permit processing continues.
 - a. TMDLs are sometimes based on expansion scenarios that account for growth of facilities.
 - b. The permit modification can be processed while maintaining the existing TMDL WLA, e.g., by reducing concentrations limits in the permit to account for increasing flow.

- 2. Process a permit modification that provides an insignificant increase to the TMDL. This is usually accepted to be an increase of less than 1% of the annual allowable loading, but other demonstrations of no significant impact may be possible (e.g., additional allocation scenarios developed as part of TMDL development, but not selected as the basis for the final TMDL). The basis for the procedure outlined under this option is a letter sent by EPA Region III to DEQ in August 2003 (see Appendix A). As stated in the letter, to ensure that a new or re-issued permit is written in accordance with an approved TMDL, the TMDL must be modified and approved by EPA before the permit is issued. The TMDL and the permit modification must be public noticed. The steps in this process are:
 - a. Verify that the percentage increase in the WLA needed to accommodate this permit modification is less than 1% of the WLA. RO permit and TMDL staff must agree on this decision.
 - b. Prepare a letter requesting EPA modification of the TMDL WLA for CO TMDL Modeling Coordinator signature and transmit for processing. An example is provided as Appendix B.
 - c. Submit the permit modification package to EPA as required by the permit manual for modification of a permit affected by a TMDL. The permit package must include the permit fact sheet that describes the WLA and TMDL changes needed to accommodate the increasing discharge. The fact sheet should also state DEQ's rationale for supporting the change (e.g., no impact to water quality since the increase is < 1% of the total load, or other demonstration of no significant impact).
 - d. Public notice both the TMDL and the permit modification, after EPA has given preliminary approval for both the permit modification and the TMDL WLA modification, 2.b. and 2.c. Example language for inclusion in the public notice is provided in Appendix C. The cost is paid by the permittee as per permit manual procedures.
 - e. Obtain final approval for the TMDL modification from EPA TMDL staff upon completion of the comment period.
 - f. Public notice the amendment of the Water Quality Management Planning Regulation in the Virginia Register. Obtain State Water Control Board approval for TMDL modification and, if needed, regulatory amendment. This is usually done by Watershed Program staff.
 - g. Issue the final permit, deferring issuance until after regulatory amendment has been approved by State Water Control Board as per 2.f.

- 3. Process a permit modification that requires remodeling of the TMDL, potentially resulting in additional nonpoint source reductions or trading. The processing of these requests is similar to the process in item 2 above, with the additions shown below. The permit documentation and the letters referenced in item 2 must be modified accordingly.
 - a. If additional loading must be accommodated, permit staff will request a TMDL remodeling effort to evaluate the impact of the additional loading on in-stream water quality. Any costs incurred by the TMDL remodeling effort will be paid for by the permittee.
 - b. If the modeling shows that the extent of the proposed TMDL modification does not require a change in the nonpoint source load allocations, follow the procedures outlined under item 2 b through g.
 - c. If the modeling shows that the extent of the proposed TMDL modification requires a change in the nonpoint source load allocations, a public comment period will be scheduled to present the proposed modifications to the public. EPA TMDL staff will be notified of the proposed change at the same time. There will be a 30-day comment period associated with the presentation of the draft TMDL modification, and the public notice procedures as outlined in Guidance Memo No. 04-2010 (Public Participation Procedures for Water Quality Management Planning) will be followed. After the conclusion of the public comment period, follow the procedures outlined in item 2 d through g.

III. Additional Considerations

Because of the additional workload associated with TMDL and regulatory modifications, regional TMDL and permit staff should ensure to the extent possible that the wasteload allocations developed for TMDLs consider expansion plans by permitted facilities in the watershed.

Additionally, wasteload allocations in watersheds without permitted facilities should not be shown as 0. Rather, they should be represented in the TMDL, expressed in terms of "less than" a number equal to or smaller than 1% of the Total Maximum Daily Load.

Appendix A – EPA letter on TMDL modifications (August 2003)

Appendix B – Template for TMDL modification request letter

Appendix C – Template for public notice of joint permit and TMDL modification

Appendix A – EPA August 2003 Letter Regarding TMDL Modifications



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

AUG 1 2 2003

Mr. Larry Lawson, Director Water Program Coordination Virginia Department of Environmental Quality 629 Main Street Richmond, VA 23219

Dear Mr. Lawson:

Staff of the Virginia Department of Environmental Quality (DEQ) recently inquired about modifying a waste load allocation (WLA) on a United States Environmental Protection Agency (EPA) approved total maximum daily load (TMDL) in order to accommodate an expanded discharger. EPA believes that in certain scenarios, on a case by case basis, this type of modification can be made to a TMDL through the Virginia Pollutant Discharge Elimination System (VPDES) program without remodeling the TMDL.

In order to do this, the Commonwealth would need to present its rationale for the modification to the TMDL in the VPDES permit fact sheet to EPA. The fact sheet would need to identify the old and new WLA and TMDL load as well as identifying whether a change in pollutant concentration has been made. The fact sheet must identify other changes to the TMDL and conditions relevant to the TMDL or document that there are no other changes to the TMDL or the watershed. A separate TMDL modification request, including the above information, would need to be sent concurrently to EPA Region III's VA TMDL coordinator. If the modification is made to the TMDL, the permit may be issued containing effluent limits consistent with the modified TMDL.

A copy of the draft permit and proposed TMDL modification would have to be public noticed to insure that the public is cognizant of the TMDL modifications. The TMDL modification request must be provided to EPA at the commencement of the public comment period, providing both the Stakeholders and EPA with ample time and information to provide comments on both the permit and the changes to the TMDL. Lastly, a rationale documenting how these modifications will meet the requirements applicable to a TMDL, e.g. 40 CFR 130.7, must be included in the fact sheet. EPA will evaluate each modification on a case by case basis and respond, via an official approval or disapproval, to the Commonwealth within thirty-days of the final submission of the TMDL modification request. If you have any questions or comments concerning this letter, please feel free to contact Mr. Thomas Henry at (215) 814-5752.

Sincere

Jon Capacasa, Director

Water Protection Division

Appendix B – Sample Letter for TMDL Modification [highlighted text to be replaced as appropriate]

Month xx, 2005

EPA Region III TMDL Program Manager US EPA Region 3 - 3WP12 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

Dear Mr./Ms. xxxx:

This letter is to request approval of modifications to the wasteload allocation (WLA) and total maximum daily load (TMDL) for bacteria developed for xx Creek, xx County, Virginia. EPA Region III approved the pollutant TMDL addressing a [specify use] impairment for xx Creek in Month Year.

The Name of Permitted Facility located in the xx Creek watershed recently requested an expansion of the design flow from xx mgd to yy mgd. DEQ proposes to modify the facility's wasteload allocation to accommodate this expansion at a permitted [pollutant] concentration of xx mg/L.

Updating the [pollutant] TMDL in accordance with this request will not cause a water quality violation because [Insert one or more of the following options]

Option 1: Virginia's Water Quality Standards for [pollutant] require that treated effluent discharged into a receiving stream meet the [pollutant] criteria for the stream.

Option 2: the TMDL included modeling results to confirm that at 5 times the wasteload allocation, the water quality standard would not be violated if permitted dischargers are required to discharge at a [pollutant] concentration of xx.

Option 3: the WLA for xx Creek increases by only approximately xx%, which is insignificant.

VA DEQ therefore proposes to replace tables x.y and a.b in the bacteria TMDL report with the following tables: [Insert appropriate tables from TMDL report]

A public notice containing the above information (see attached) was published in Name of Newspaper on Month Day, Year. The comment period ended on Month Day, Year. No comments were received /The following comments were received. In accordance with EPA's August 2003 letter to VA DEQ, VA DEQ hereby requests EPA approval of the proposed modification. If you or your staff have questions on this modification of the xx Creek [pollutant] TMDL, please contact me at (804) 698-4099.

Sincerely,

TMDL Modeling Coordinator Watershed Programs Office

Attachment

cc: EPA Region III Water Permit Program Manager

RO Permit Manager/Writer, VADEQ

RO TMDL Coordinator, VADEQ

CO TMDL Program Manager, VADEQ

CO Permit Manager, VADEQ

File

Appendix C – Example Language for Inclusion in Joint Public Notice for TMDL and Permit Modification

DEQ Public Notice

Citizens may comment on a proposed permit and associated modification of a Total Maximum Daily Load (TMDL) that will allow the release of treated wastewater into a water body in Russell County, Virginia

PUBLIC COMMENT PERIOD: First public notice issue date (to be entered by the newspaper). The comment period lasts for 30 days from this date.

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater

Owners or operators of facilities (municipal, industrial, or private) that release (discharge) or propose to release wastewater into the streams, rivers or bays of Virginia from a point source must apply for this permit. In general, point sources are fixed sources of pollution such as pipes, ditches or channels. The applicant must submit the application to the Department of Environmental Quality, under the authority of the State Water Control Board.

PURPOSE OF NOTICE: To invite the public to comment on the draft permit and TMDL modification.

NAME, ADDRESS AND PERMIT NUMBER OF APPLICANT: Town of Honaker; P.O. Box 746, Honaker, VA 24260; VA0026387

NAME AND ADDRESS OF FACILITY: Honaker Sewage Treatment Plant; 694 Plant Street, State Route 653, Honaker, VA

PROJECT DESCRIPTION: The Town of Honaker has applied for modification of their permit for the Honaker Sewage Treatment Plant in Russell County, Virginia. The applicant proposes to release treated sewage at a rate of 0.40 million gallons per day into a water body. This modification re-rates the treatment facility from 0.20 MGD to 0.40 MGD and also requires modification of the Lewis Creek TMDL to reflect the increased total suspended solids of the discharge. DEQ Sludge from the treatment process will be disposed by: Option A – Land application to farm land in Russell County, Virginia owned by Mason Whited; Option B – Disposal in the BFI Carter's Valley Landfill at Church Hill, Tennessee. The facility proposes to release the treated sewage in the Lewis Creek in Russell County, Virginia, in the Clinch River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: BOD₅ (oxygen demanding substances), total suspended solids, ammonia, and total residual chlorine.

MODIFICATION OF LEWIS CREEK TMDL: Total maximum daily load (TMDL) of sediment was developed to address benthic impairments in Lewis Creek, Clinch/Powell watershed. This TMDL was approved by the Environmental Protection Agency on 5/26/04 and can be found at the following website: http://gisweb.deq.virginia.gov/tmdlapp/tmdl report search.cfm. The permit modification is based on the Town of Honaker's request to increase the design flow at the sewage treatment plant from 0.20 MGD to 0.40 MGD. Therefore, DEQ proposes to modify the wasteload allocation and TMDL to accommodate this expansion at a permitted total suspended solids concentration of 30 mg/L. The above revisions would result in an insignificant increase in the total allocated sediment loads in the TMDL for Lewis Creek of approximately 0.5%.

HOW A DECISION IS MADE: After public comments have been considered and addressed by the

permit or other means, DEQ will make the final decision unless there is a public hearing. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the proposed permit. If there is a public hearing, the State Water Control Board will make the final decision.

HOW TO COMMENT: DEQ accepts comments by e-mail, fax or postal mail. All comments must be in writing and be received by DEQ during the comment period. The public also may request a public hearing.

WRITTEN COMMENTS MUST INCLUDE:

- 1. The names, mailing addresses and telephone numbers of the person commenting and of all people represented by the citizen.
- 2. If a public hearing is requested, the reason for holding a hearing, including associated concerns.
- 3. A brief, informal statement regarding the extent of the interest of the person commenting, including how the operation of the facility or activity affects the citizen.

TO REVIEW THE DRAFT PERMIT AND APPLICATION: The public may review the documents at the DEQ Southwest Regional Office every work day by appointment.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:

Name: Charles L. Gates

Address: DEQ, Southwest Regional Office, P.O. Box 1688, 355 Deadmore Street, Abingdon,

Virginia, 24212 – 1688

Phone: (276) 676-4810; E-mail: <u>clgates@deq.virginia.gov</u>; Fax: (276) 676-4899